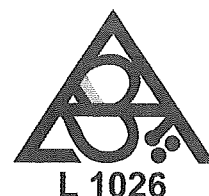


Order No.: 1 06 048
(Z210060206)

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FIRE TESTING LABORATORY VESELÍ NAD LUŽNICÍ

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REACTION TO FIRE TEST REPORT

No. Pr-06-1.101-En

Issued on 2006-08-24

for product

Mesh Fabric

R 131 A101

Sponsor: **Saint-Gobain Vertex, s.r.o.**
Sokolovská 106
570 21 Litomyšl

Test method:

EN ISO 1716
» Reaction to fire tests of building products
– Determination of the heat of combustion «

Report contains: 5 pages
(3 text pages + 2 annexes)

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1 INTRODUCTION

The gross heat of combustion of homogenous building product has been determined following the order of company Saint-Gobain Vertex, s.r.o. in Fire Testing Laboratory of PAVUS, a.s. in Veselí nad Lužnicí.

The tests were prepared, performed and evaluated on the basis of following documents:

- [1] EN ISO 1716: Reaction to fire tests for building products – Determination of the heat of combustion
- [2] EN 13238: Reaction to fire tests for building products – Conditioning procedures and general rules for selection of substrates
- [3] Cover form of the product to be tested

For the purposes of this report the definitions stated in [1] and [2] are valid.

2 TEST SUBJECT

| | |
|-------------------------|---|
| Product name: | R 131 A101 |
| Product identification: | glass fibre mesh fabric |
| Manufacturer: | Saint-Gobain Vertex, s.r.o. Sokolovská 106 570 21 Litomyšl |
| Product description: | R 131 A101 – glass fibre mesh fabric is used as a reinforcement mass per unit area: 160 g/m ² organic content: 20 % thickness: 0,47 mm surface treatment: alkali resistant |
| Date of sample arrival: | 2006-05-12 |
| Sampling procedure: | sponsor |
| Conditioning: | acc. to [2] |

Test subjects were three specimens obtained by weighing of product, supplied by the sponsor.

3 TEST PERFORMANCE

Tests were performed according to [1] and [2].

The testing and measuring equipment used is given in Annex 1.

The tests were performed in the laboratory on the 13th June, 2006. The ambient air temperature was 21,0 °C with 54,7 % ambient air relative humidity.

The gross heat of combustion has been with all specimens determined by crucible method in adiabatic calorimeter.

4 TEST RESULTS

The gross heat of combustion of the specimen has been calculated from measured values, given in Annex 2.

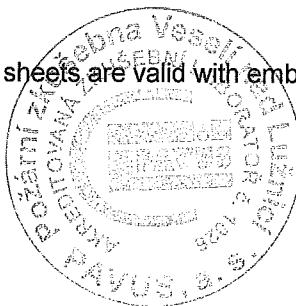
| Specimen | Gross heat of combustion PCS (MJ/kg) |
|----------------|---|
| 1 06 027 / 1-3 | 8,27 |
| 1 06 027 / 2-3 | 8,10 |
| 1 06 027 / 3-3 | 8,12 |
| Mean value | 8,17 |

The gross heat of combustion of the specimen is 8,17 MJ/kg.

5 CONCLUSION

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Report and annexes sheets are valid with embossed stamp only.



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ANNEX 1: TESTING AND MEASURING EQUIPMENT, MEASUREMENT UNCERTAINTY

| Test apparatus | Registration number |
|---------------------------------|---------------------|
| Adiabatic calorimeter IKA C4000 | 10.011 |
| Pressure equipment | 10.011 |

| Measuring equipment | Metrological registration number |
|-------------------------------|----------------------------------|
| Thermo-hygro-baro-graph | 3 13 08, 3 09 11 |
| Digital balance KERN EW 6000 | 3 04 09 |
| Analytical balance WAX 60/220 | 3 04 14 |

The metrological relationships of the device are defined in the metrological registration card of the device, this card is expressly identified by the metrological registration number of the device.

| Measured quantity | | | Expanded measurement uncertainty |
|-------------------------------|-----------|------|----------------------------------|
| Name | Symbol | Unit | |
| Ambient air temperature | T | °C | < 0,7 |
| Calorimeter temperature | Q | °C | < 0,001 |
| Ambient air relative humidity | φ | % | < 2,6 |
| Water mass | m | g | < 0,12 |
| Specimen mass | m | g | < 0,0001 |

The reported expanded uncertainties of measurement are stated as the standard uncertainties of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %.

The standard uncertainty of measurement has been determined in accordance with EA-16/02 and GUM.

ANNEX 2: MEASUREMENT

Component mass and temperature rise during the individual determination.

| Specimen | Specimen mass (g) | Benzoic acid mass (g) | Cotton thread mass (g) | Temperature rise ΔT (K) |
|----------------|----------------------|--------------------------|------------------------------|---------------------------------------|
| 1 06 027 / 1-3 | 1,03139 | - | 0,03420 | 0,979 |
| 1 06 027 / 2-3 | 1,05587 | - | 0,03424 | 0,982 |
| 1 06 027 / 3-3 | 1,06711 | - | 0,03716 | 0,999 |

In all three cases a firing wire with 30 J gross heat of combustion has been used.

Calculation of the gross heat of combustion:

$$PCS = \frac{E(T_m - T_i + c) - b}{m}$$

Where:

| | | |
|-------------|--|---------|
| PCS..... | gross heat of combustion | (MJ/kg) |
| E..... | water equivalent of calorimeter with accessories (in this case $9,309 \cdot 10^{-3}$) | (MJ/K) |
| T_i | initial temperature | (K) |
| T_m | maximum temperature | (K) |
| b..... | correction to combustion supporting means | (MJ) |
| c..... | temperature correction required for the exchange of heat with the outside (zero in this case) | (K) |
| m..... | mass of the test specimen | (kg) |

From the above expression the final values given in chapter 4 have been calculated.